



**YALE CHILD  
STUDY CENTER**

*Where discovery inspires care*

## **YCSC Postdoc Seminar Series 2021-2022**

**Thursday 2:30-3:30pm Zoom meeting**

<https://zoom.us/j/92086460436?pwd=b2JKYXVNTUVVRy9HeEo3UFhvOXkwZz09>

Meeting ID: 920 8646 0436      Passcode: 2022

*Organizers: Karim Ibrahim, Soraya Scuderi*

### **February 17<sup>th</sup>**

#### **“Parental mentalizing during a pandemic: Use of mental state language on parenting social media before and during the COVID-19 pandemic”**

**Tal Yatziv, PhD** Dr. Rutherford's Before and After Baby Lab (the BABL)

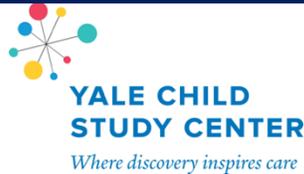
The COVID-19 pandemic has been a demanding caregiving context for parents, particularly during lockdowns. In this study we examined changes in parental mentalization, parents' proclivity to consider their own and their child's mental states, during the pandemic, as manifested in mental state language (MSL) on parenting social media. Parenting-related posts on Reddit from two time-periods in the pandemic in 2020, March-April (lockdown;  $N = 16,084$  posts) and July-August (post-lockdown;  $N = 16,510$ ), were compared to time-matched control periods in 2019 ( $Ns = 12,457$  and  $13,853$ , respectively). MSL and self-other references were measured using text-analysis methods. Parental mentalization content decreased during the pandemic: parents referred less to mental activities and to others during the COVID-19 pandemic, and showed decreased affective MSL, cognitive MSL, and self-references specifically during lockdown. Fathers-specific subreddits exhibited strongest declines in mentalization content, whereas mothers-specific subreddits exhibited smaller changes. Implications on understanding associations between caregiving contexts and parental mentalization, gender differences, and the value of social media data to study parenting and mentalizing will be discussed.

### **March 17<sup>th</sup>**

#### **“Affective Vulnerability during the Perinatal Period: Perceived Stress and Emotion Regulation Strategies across Two Samples”**

**Francesca Penner, PhD** Dr. Rutherford's Before and After Baby Lab (the BABL)

Emotion regulation and perceived stress are transdiagnostic affective factors significant for the health of pregnant people and the developing child. Perinatal emotion regulation in particular remains understudied and would benefit from further examination given that it is modifiable—and therefore applicable for interventions. The current pair of studies aims to extend knowledge on perinatal emotion regulation by expanding on its associations with perceived stress. In Study 1,  $N=83$  expectant mothers and fathers recruited from the northeastern U.S. in the third trimester of pregnancy completed measures assessing perceived stress and emotion regulation strategies (reappraisal and suppression). Expectant mothers and fathers did not differ in perceived stress, reappraisal, or suppression; however, fathers' relative use of suppression to reappraisal was higher compared to mothers. Lower reappraisal, higher suppression, and greater tendency to use suppression over reappraisal predicted higher perceived stress. In Study 2,  $N=92$  pregnant women recruited from the western U.S. completed the same measures of perceived stress, reappraisal, and suppression in the second trimester, third trimester, and at four months postpartum. Cross-lagged panel models revealed significant stability effects over time for perceived stress, reappraisal, and suppression; significant cross-sectional associations between lower reappraisal and higher perceived stress; and a significant cross-lagged path from greater perceived stress in the second trimester to lower reappraisal in the third trimester. Together, these studies extend knowledge on perinatal emotion regulation and stress in mothers and fathers, and on the interplay between these two transdiagnostic affective factors across the perinatal period. Implications for research and intervention are discussed.



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**April 21<sup>st</sup>**

## **“Culture and the socialization of emotion”**

**Zhenlan Wang, PhD** Dr. Bailey Lab Yale Center for Emotional Intelligence

Past research has paid limited attention to cultural variation in views of what considered important in emotion regulation. In a three-study investigation, we compared coping strategies used by adults and children of European-American and Chinese cultural backgrounds. Study 1 assessed norms of stress coping modes as portrayed in American ( $N = 39$ ) and Chinese ( $N = 41$ ) children’s storybooks. Assessing real-life coping, Study 2 asked European-American ( $N = 83$ ,  $Age = 22.6$ ) and Chinese ( $N = 83$ ,  $Age = 21.2$ ) adults to describe and evaluate the way they dealt with a significant personal problem. Investigating the socialization of coping strategies. Study 3 (ongoing) invited children from the two cultural backgrounds to complete two stories based on the given beginnings. Across the three studies, we identified culturally variant beliefs in emotion regulation, with Americans treating emotion expression as part of emotion regulation, and Chinese self-regulating their emotions without necessarily involving emotion expression. This, in turn, influences the types of social support that are more or less provided and received in the two cultures.

## **“Application of machine learning to parse neurodevelopmental heterogeneity in autism spectrum disorder”**

**Gloria Han, PhD** Dr. McPartland Lab

Autism spectrum disorder (ASD) is a neurodevelopmental condition characterized by differences in social communication and interaction and presence of restricted interests and repetitive patterns of behavior. ASD is a notably heterogeneous condition with respect to phenotypic presentation, biological underpinnings, and treatment response. Efforts are needed to “parse heterogeneity” in this population to inform more precise clinical characterization and subsequent treatment selection (i.e., treatment that is tailored to the needs of the individual instead of taking a one-size-fits-all approach). From an analytical perspective, this task is challenging when there are many sources of variability, as is often the case in ASD. Data-driven analytic methods from machine learning that can consider many possible factors at once may be particularly helpful for stratifying complex and heterogeneous populations into meaningful subgroups. To this end, this talk will describe an application of machine learning using data from Phase 1 of the Autism Biomarkers Consortium for Clinical Trials (ABC-CT), a multicenter research initiative led by Dr. James McPartland at the Yale Child Study Center aimed at detecting reliable and objective biomarkers of social function and communication in children with autism. Model selection and comparison will focus on models that can accommodate many clinical variables relevant to predicting individual differences in putative biomarkers of interest (e.g., the N170 face sensitive event related potential). Considering the translational goal of utilizing biomarkers to inform clinical decision making, model selection will favor those with clinical interpretability to demonstrate how data-driven and algorithmic approaches may strengthen efforts to parse phenotypic variability in ASD.



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**May 19<sup>th</sup>**

### **“CBT for Anxiety in Children with ASD: Adaptations During the COVID-19 Pandemic”**

**Carla Kalvin, PhD** Dr. Sukhodolsky Lab

Cognitive behavioral therapy (CBT) is an effective treatment for anxiety in children with autism spectrum disorder (ASD), typically delivered via 12 – 16 in-person therapy sessions. However, following the onset of the COVID-19 pandemic, the standard implementation of this intervention warranted notable modifications, including transition to telehealth delivery. This presentation details modifications made to CBT for children who were participating in a clinical trial of CBT for anxiety in ASD during the first wave of COVID-19. Effects of the pandemic on symptom presentation and family functioning, as well as modifications made to the standard CBT protocol due to the transition to telehealth delivery, are discussed. Further, the ways in which delivery of CBT was adapted to address new sources of anxiety and new realities of social distancing and quarantine restrictions are reviewed, with implications for continued delivery of evidence-based treatments during the COVID-19 pandemic.

### **“Longitudinal changes in neural activation that discriminates between aspects of reward processing in early adolescence”**

**Reuma Gadassi Polack, PhD** Jutta Joormann, Richard Watts

Little is known on the longitudinal changes that occur in the functional neuroanatomy of reward processing in early adolescence. The present study used fMRI to characterize neural activation to different aspects of reward processing (sign and size), and examined their change over a period of two years. Data is a subset of participants in the Adolescent Cognitive and Brain Development (ABCD) study. Children completed the Monetary Incentive Delay task at baseline (ages 9-10) and year 2 follow-up (ages 11-12). Based on data from 491 children, we identified Regions of Interest (ROIs) that are sensitive to the five Trial types. We extracted activation from an independent set of 1470 children at baseline and follow-up. For each task condition (anticipation, negative feedback, positive feedback) we conducted a two-way repeated measures ANOVA with Time (baseline vs. year 2) and Trial Type (win \$5, win \$0.20, neutral, lose \$0.20, lose \$5) to identify changes in sensitivity to reward aspect over time. The effects of Time and its interactions were significantly smaller ( $0.002 \leq \eta^2 \leq 0.02$ ) compared to the effect of Trial type ( $0.06 \leq \eta^2 \leq 0.30$ ). Regions sensitivity to sign or size changed according to Condition but not over time. In general, subcortical regions were more sensitive to large rewards during anticipation and more sensitive to the size of reward/loss during feedback. At the group level, reward processing shows highly similar patterns over a period of two years, with some evidence of increased reactivity to reward at age 11 vs. 9.